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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,749	01/18/2000	Qinyun Peng	FDN-2604	1054

7590 08/13/2002

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EXAMINER

SINGH, ARTI R

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 08/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-5

<b>Office Action Summary</b>	Application No. 09/484,749	Applicant(s) PENG ET AL.	
	Examiner Ms. Arti R. Singh	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 05/31/2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 1771

## DETAILED ACTION

### *Response to Amendment*

1. The Examiner has carefully considered Applicant's amendment and accompanying remarks filed on 05/31/02. Applicant's amendments to claim 1, and cancellation of nonelected claims 9-33 have been entered. The explanation of "BUR" as built up roofing, on page 2 of the response overcomes the objection in paragraph 7 of the previous office action (paper no. 3). The amendment to claim 1 also overcomes the objection made in paragraph 8 of the previous office action (paper no. 3). The double patenting rejection has also been withdrawn, as the crosslinked styrene meth-acrylic binder is not found to be an obvious variant that could be easily substituted in the instant application. This action is being made final.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7 & 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Mirous (U.S.P. 5,518,586).

4. Applicant's Claim 1 is drawn to a glass fiber mat comprising (a) by weight about 68% to about 90% of fibers, (b) about 10% to about 32% by weight of an organic resin binder and (c) applied to the surface of the glass mat about 0.001% to about 20% by weight of an adhesion modifier which is selected from the group consisting of siloxanes, glycerides, phosphate esters of fatty acids or alcohols, fatty ammonium salts, saponified oils, coconut oil, polyamines, fatty amines, fatty amine oxides, amido amines, polyamido amines, amine substituted terpenes, polyamides and mixtures of the above with glycerols or glycols. Claim 2 further limits the amount of the adhesion modifier to be about 0.01-10%. Claim 7 further

Art Unit: 1771

limits the organic resin binder to be urea-formaldehyde, and claim 8 further limits the glass fibers to have a length of 3 mm to a bout 130mm and a diameter of about 5 micrometers to about 25 micrometers.

Mirous discloses high tear strength glass mats comprising urea- formaldehyde resin binder applied to a fibrous glass mat and useful in making roofing shingles (column 2, lines 64-65). The resin is further modified by additives and cross-linking agents (abstract and column 2, lines 6-24). In column 4, lines 29-45, pantetee discloses that the urea-formaldehyde used as a binder in the invention is modified with an anionic phosphate ester with a high molecular weight a C<sub>8</sub> <sup>to</sup> ~~of~~ C<sub>16</sub> fatty alcohol backbone. It is seen that a urea-formaldehyde resin modified with the specific phosphate ester results in mats having high tear strength. The amount of phosphate ester is about 0.1 to a bout 5.0 %, preferably about 0.5 % of the binder composition (column 4, lines 65-67). The fibers generally have a length of 0.25-3 inches (6.4-76 mm) and a diameter of 3 to 20 microns (column 3, lines 55-63). In column 5, lines 49-54 the instant patent discloses that the finished glass mat product generally contains between 60% to 90% by weight glass fibers and between 10% to 40% of binder. Therefore, the cited Mirous patnet anticipates Applicant's claims 1, 2, 7 & 8.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject

Art Unit: 1771

matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.P. 5,518,586 to Mirous in view of U.S.P. 3,865,682 to Marzocchi.

As set forth above Mirous teaches the limitations of Applicant's claims 1, 2, 7 & 8, but does expressly suggest the presence of the required polysiloxane (Applicant's claims 3-6).

Marzocchi disclose the use of silanes, amino silanes, polysiloxanes and derivatives of those sought in Applicant's claims 1, 3 -6 (i.e. Claim 4 limits the polysiloxane to a specific Markush group, which includes polyalkyl siloxane, a polyaryl siloxane, a poly alkylaryl siloxane or a polyether siloxane or a derivative thereof.). Hence it would have been obvious to a person having ordinary skill in the art to add the specific polysiloxane as the adhesion modifier to the resin of Mirous. Motivation to do so would be to improve the moisture resistance of the glass fiber mat useful as a roofing shingle, as is disclosed by Mirous. Therefore Claims 1-8 are rejected as being obvious over the cited prior art.

#### ***Response to Arguments***

7. Applicant's arguments filed on 05/31/02 have been fully considered but they are not persuasive. With regard to Applicant's argument in that the tear strength is substantially in excess to the industry standard is not commensurate in scope. Said standards are not claimed.

With regard to Applicant's discussion on how the presently claimed invention takes off where the prior art stopped is also incorrect, as Applicant has now amended his claims to incorporate the exact phosphate ester that is being discussed.

In reference to Applicant's arguments regarding that the adhesion modifier is nonreactive, this is not commensurate in scope to the claims. The claims do not require the adhesion modifier to<sup>be</sup> nonreactive. Furthermore, the method of making an article is not germane to the issue of patentability of the article itself. Thus, the method by which the adhesion modifier is applied does not differentiate between Applicant's claimed invention and that of Mirous/ Marzocchi.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry regarding this communication or earlier communications from the Examiner should be directed to Arti Singh, whose telephone number is (703) 305-0291. The Examiner can normally be reached Monday through Friday from 8 AM to 5 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor Mr. Terrel Morris, can be reached at (703) 308-2414. A Facsimile center has been established in Group 1700 on the 8th floor of Crystal Plaza 3. The hours of operation are Monday through Friday 8:45 AM to 4:45 PM. The

Art Unit: 1771

telecopier number for accessing the facsimile machine is (703) 305-5408. This location should be used in all instances when faxing any correspondence to Art Unit 1771. Use of the Group 1700 center will facilitate rapid delivery of materials to Examiners in Art Unit 1771.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-

2351



Ms. Arti Singh  
Patent Examiner  
Art Unit 1771  
August 10, 2002



TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700